**EARTH SCIENCES TEST 1 Study Guide:**

1. What disciplines does study of Earth Sciences include? Geology, Oceanography, Meteorology and Astronomy.
2. What part of our universe do they focus on?
3. Understand the Theory of the Big Bang.
   1. When?
   2. Temperatures?
   3. What was produced? Why does it matter?
   4. How do we know?
   5. History of space exploration (Quiz 2 questions)
4. Extra Credit - Three great Astronomers – Name them and say what aspect of the Universe connects them.
5. Nebular Hypothesis
   1. What is a nebular? What does the hypothesis propose?
   2. Why does it matter?
   3. Why is the nebular unstable?
   4. Nuclear Fusion in the Nebular – Hydrogen + Hydrogen fuses to makes Helium – Energy, Heat and Light.
6. The periodic table of elements and Formation of stars:
   1. Hydrogen and Helium – from the Big Bang
   2. Light elements created in small stars – e.g. Carbon, Nitrogen, Oxygen
   3. Heavier elements created in larger stars
   4. Heaviest elements such as Gold and Silver need a jolt of energy from Super Novae
   5. What is a Super Nova?
7. Galaxies:
   1. What are they?
   2. What is our Galaxy called?
8. Formation of our Solar System?
   1. Age?
   2. Collapse of the Nebula into a disk like form - conservation of angular momentum – begins to spin
   3. Formation of a proto-Sun - large body develops its own “gravitational attractiveness”
   4. Accretion of matter into clumps around sun – random/ passive SLOW
   5. Planets begin to grow – slowly at first then faster – Gas Giants.
   6. What are the Gas Giants? What are the gasses?
9. Why are the planets close to the sun smaller than those further away?
   1. Why is Mercury closer to the sun but cooler than Venus?
10. How does matter change when you add energy? Why?
11. What are atoms? Be able to draw a simple atom showing what is in the nucleus with their respective charges and the electron shells.
12. What are electron shells? What do they do?
13. What are elements?
    1. Atomic Number versus Mass Number
    2. Atomic Mass